

II. CLAIM AMENDMENTS

1.(Currently Amended) A method for reducing the power consumption of a mobile station connected to a packet-switched network, in which packet-switched network information is transmitted in the form of data frames, the method comprising:

defining at least two different paging periods, and selecting a paging period for an idle mode in the mobile station on the basis of received signal strength;

~~specifying a paging period for a mobile station;~~

sending paging messages essentially at the intervals of said paging period to the mobile station to enable to synchronize the mobile station with the packet-switched network;

setting the mobile station in the standby mode at least for the time of the reception of paging messages, and after the reception of the paging message;

setting the mobile station, which is in the standby mode, to the idle mode, in which idle mode part of the functions of the mobile station are set in one of the following states: the power saving mode; switched off,

wherein the method further comprises changing the mode of operation of the mobile station from the idle mode to the standby mode according to any of the following alternatives: at intervals during the paging period to receive information

transmitted in the packet-switched network for maintaining synchronization to the packet-switched network; or at the end of the paging period for resynchronizing the mobile station to the packet-switched network.

2-3. (Cancelled)

4. (Currently Amended) A method according to ~~Claim 3~~ claim 1, comprising performing the selection of the paging period on the basis of running average of the received signal strength.

5. (Currently Amended) A method according to claim 1 ~~Claim 3~~, further comprising at least the following:

defining a first threshold value,

defining a maximum paging period and a minimum paging period,

calculating a representation of the received signal by using the received signal strength,

comparing said representation of the received signal with one or more previously calculated representations of the received signal,

increasing the paging period, if the comparison indicates that the difference between the representation of the received signal and all of said one or more previously calculated representations of the received signal lies within said first

threshold value and if current paging period is shorter than said maximum paging period;

decreasing the paging period, if the comparison indicates that the difference between the representation of the received signal and any of said one or more previously calculated representations of the received signal is greater than said first threshold value and if current paging period is longer than said minimum paging period.

6. (Currently Amended) A method according to claim 1 ~~Claim 2~~, further comprising defining the selection of the paging period by the user of the mobile terminal.

7. (Previously Presented) A method according to Claim 1, further comprising controlling in the idle mode the timing functions of the mobile station by using a first oscillator, wherein the time for changing from the idle mode to the standby mode is affected at least partly by the frequency stability of the first oscillator.

8. (Previously Presented) A method according to Claim 7, further comprising at least the following steps:

specifying a synchronization period for the mobile station on the basis of the frequency stability of the first oscillator,

receiving a paging message,

setting the mobile station in the idle mode,

specifying the time of reception of the next paging message,

comparing the specified synchronization period with the specified time of reception,

examining the result of the comparison to determine if the synchronization period is at least as long as the time before the next time of reception of a paging message, wherein the method comprises setting the idle mode to end essentially immediately before the time of reception of the next paging message, or if the synchronization period is shorter than the time before the time of reception of the next paging message, wherein the method comprises setting the idle mode to end before the specified synchronization time has expired, performing the synchronization, and repeating said setting, specifying, comparing and examining, and

repeating at least said receiving, setting, specifying, comparing and examining in connection with the reception of each paging message.

9. (Previously Presented) A method according to Claim 8, comprising forming the data frame of bursts, and forming multiframes of a certain length of the data frames, whereby the method further comprises specifying the synchronization period as a number of multiframes.

10. (Previously Presented) A method according to Claim 9, comprising forming the multiframe of 52 data frames, specifying the paging period as 64 multiframes, and specifying the synchronization period as nine multiframes.

11. (Previously Presented) A method according to Claim 9, comprising sending synchronization bursts in data frames, and

performing the resynchronization by receiving said synchronization bursts.

12. (Previously Presented) A method according to Claim 1, comprising using a GPRS packet-switched network as the packet-switched network.

13. (Currently Amended) A system, which comprises:

a packet-switched network,

at least one mobile station having a data transfer connection with the packet-switched network,

means for sending information in the form of data frames between the mobile station and the packet-switched network,

means for defining at least two different paging periods,
and selecting a paging period for the idle mode in the mobile station on the basis of received signal strengths~~specifying the~~
~~paging period~~, whereby paging messages are arranged to be sent essentially at the intervals of said paging period to the mobile station to enable to synchronize the mobile station with the packet-switched network,

means for setting the mobile station to the standby mode at least for the time of the reception of the paging messages ,

means for setting the mobile station, which is in the standby mode, to the idle mode after the reception of the paging message , and

means for setting some of the functions of a mobile station in the idle mode to one of the following states:
the power saving mode, switched off,

means for changing the mode of operation of a mobile station, which is in the idle mode, from the idle mode to the

standby mode, wherein the means for changing the mode of operation of a mobile station are adapted to change the mode of operation according to any of the following alternatives: at intervals during the paging period to receive information transmitted in the packet-switched network for maintaining synchronization to the packet-switched network, or at the end of the paging period to receive information transmitted in the packet-switched network for performing a resynchronization to the packet-switched network.

14. (Previously Presented) A system according to Claim 13, comprising in that the mobile station comprises a first oscillator for controlling the timing functions of the mobile station in the idle mode, whereby the time for changing from the idle mode to the standby mode is affected at least partly by the frequency stability of the first oscillator.

15. (Previously Presented) A system according to Claim 14, comprising in that the mobile station also comprises:

- means for specifying the synchronization period on the basis of the frequency stability of the first oscillator,

- means for receiving a paging message,

- means for setting the mobile station to the idle mode,

- means for specifying the time of reception of the next paging message,

- comparison means for comparing the specified synchronization period with the specified time of reception,

- means for setting the ending time of the idle mode on the basis of the comparison carried out with said comparison means,

- said means for setting the ending time of the idle mode being adapted to examine the result of the comparison to

determine if the synchronization period is at least as long as the time before the next time of reception of a paging message, wherein the idle mode has been set to end essentially immediately before the time of reception of the next paging message, or if the synchronization period is shorter than the time before the time of reception of the next paging message, wherein the idle mode has been set to end before the specified synchronization time has expired, the system is adapted to perform the synchronization and to set the mobile station to the idle mode after the synchronization.

16. (Previously Presented) A system according to Claim 15, wherein the data frame comprises bursts, and multiframes of a certain length comprises the data frames, whereby a number of multiframes specifies the synchronization period.

17. (Previously Presented) A system according to Claim 16, comprising in that the multiframe is formed of 52 data frames, the paging period is 64 multiframes, and that the synchronization period is nine multiframes.

18. (Previously Presented) A system according to Claim 15, wherein said means for sending information are adapted to send synchronization bursts in data frames, whereby the system is adapted to receiving said synchronization bursts to perform the resynchronization.

19. (Previously Presented) A system according to Claim 13, wherein the packet-switched network is a GPRS packet-switched network.

20. (Currently Amended) A mobile station comprising:

means for establishing a data transfer connection to the packet-switched network,

means for defining at least two different paging periods, and selecting a paging period for an idle mode in the mobile station on the basis of received signal strength; specifying the paging period,

a receiver for receiving paging messages which are sent essentially at the intervals of said paging period from the packet-switched network to the mobile station to enable to synchronize the mobile station with the packet-switched network,

means for setting the mobile station to the standby mode at least for the time of the reception of the paging messages,

means for setting the mobile station, which is in the standby mode, to the idle mode after the reception of the paging message, and

means for setting some of the functions of a mobile station in the idle mode to one of the following states: the power saving mode, switched off,

means for changing the mode of operation of a mobile station, which is in the idle mode, from the idle mode to the standby mode, wherein the means for changing the mode of operation of a mobile station are adapted to change the mode of operation according to one of the following alternatives: at intervals during the paging period to receive information transmitted in the packet-switched network for maintaining synchronization to the packet-switched network when the mobile station is synchronized to the packet-switched network, or at the end of the paging period to receive information transmitted in the packet-switched network for performing synchronization

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to the packet-switched network again when the mobile station is not synchronized to the packet-switched network.